

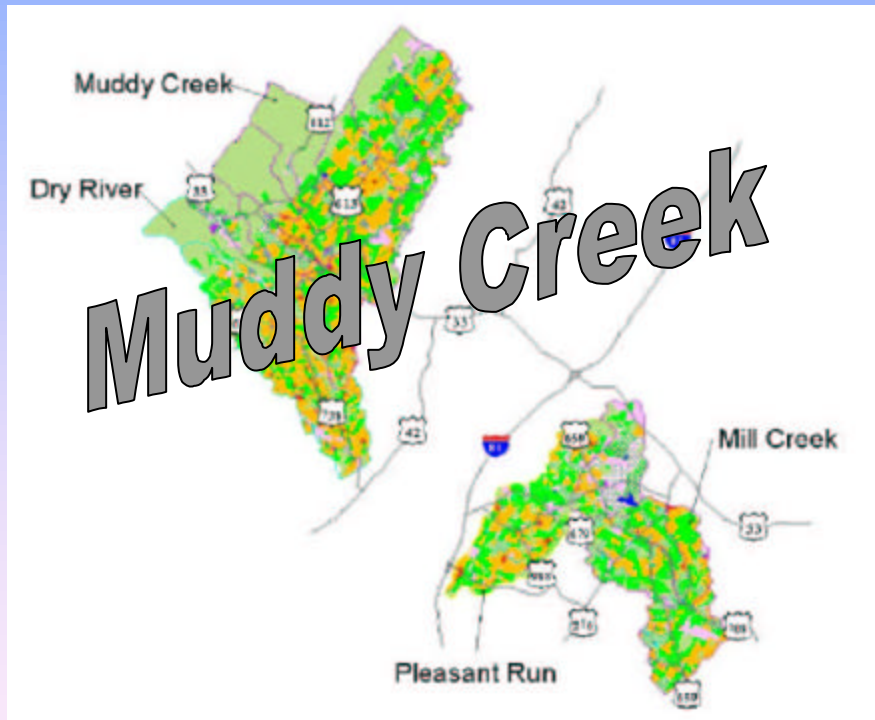


# **Measurable Progress Since the Implementation of a Bacterial TMDL on Muddy Creek**



# Muddy Creek TMDL

- One of the first TMDLs developed and implemented in VA



- Timeline
  - TMDL Study  
1998 - 1999
  - Implementation Planning  
2000 - 2001
  - Implementation  
2000 - present

# Implementation of Cost-Share Practices on Muddy Creek

| BMP                       | Number of Practices |
|---------------------------|---------------------|
| Animal Waste Storage      | 1                   |
| Loafing Lot System        | 2                   |
| Stream Bank Protection    | 1                   |
| Grazing Land Protection   | 1                   |
| Cropland Conversion       | 2                   |
| Septic System Pumpout     | 2                   |
| Septic System Repair      | 2                   |
| Septic Tank Installation  | 3                   |
| Alternative Septic System | 1                   |

\* Practices represent voluntary participation in cost-share programs implemented through the Shenandoah Valley Soil and Water Conservation District

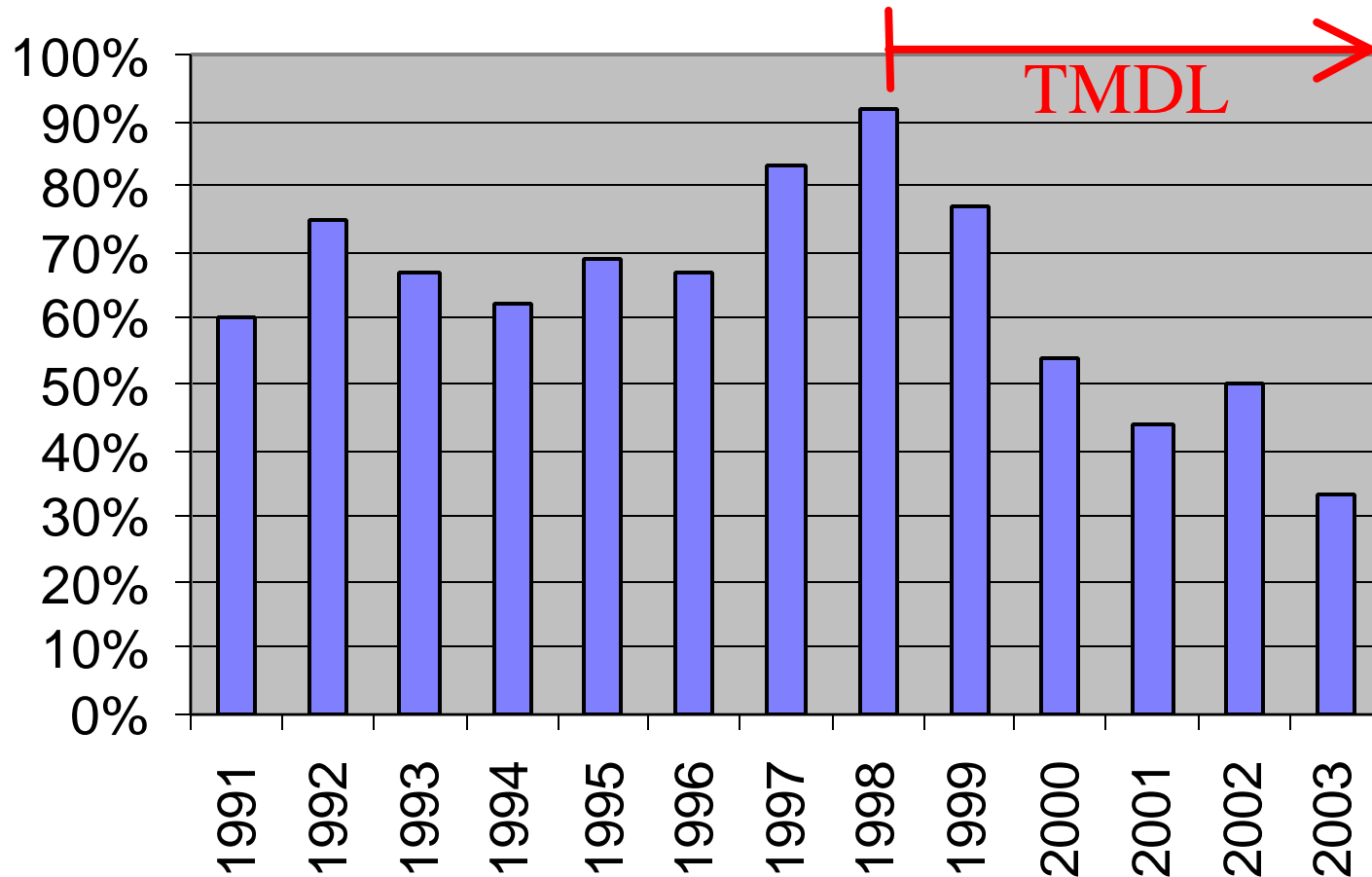
# Implementation of Voluntary BMPs on Muddy Creek

| BMP                        | Amount      |
|----------------------------|-------------|
| Stream Fencing             | 29,598 ft.  |
| Cover Crops                | 876 acres   |
| Animal Waste Storage       | 31 units    |
| Tree Plantings             | 3 acres     |
| Dairy Loafing Lots         | 147 acres   |
| Stream Crossings           | 14          |
| Grassed Waterways          | 4,785 ft    |
| Soil Tests                 | 1,012 acres |
| Pre-Sidedress Nitrate Test | 140 acres   |
| Nutrient Management Plans  | 26          |

\*Practices represent voluntary installation of BMPs without participation in cost-share programs. Estimates obtained from a survey conducted by the Shenandoah Valley Soil and Water Conservation District.

# Resulting Decreases in Fecal Coliform

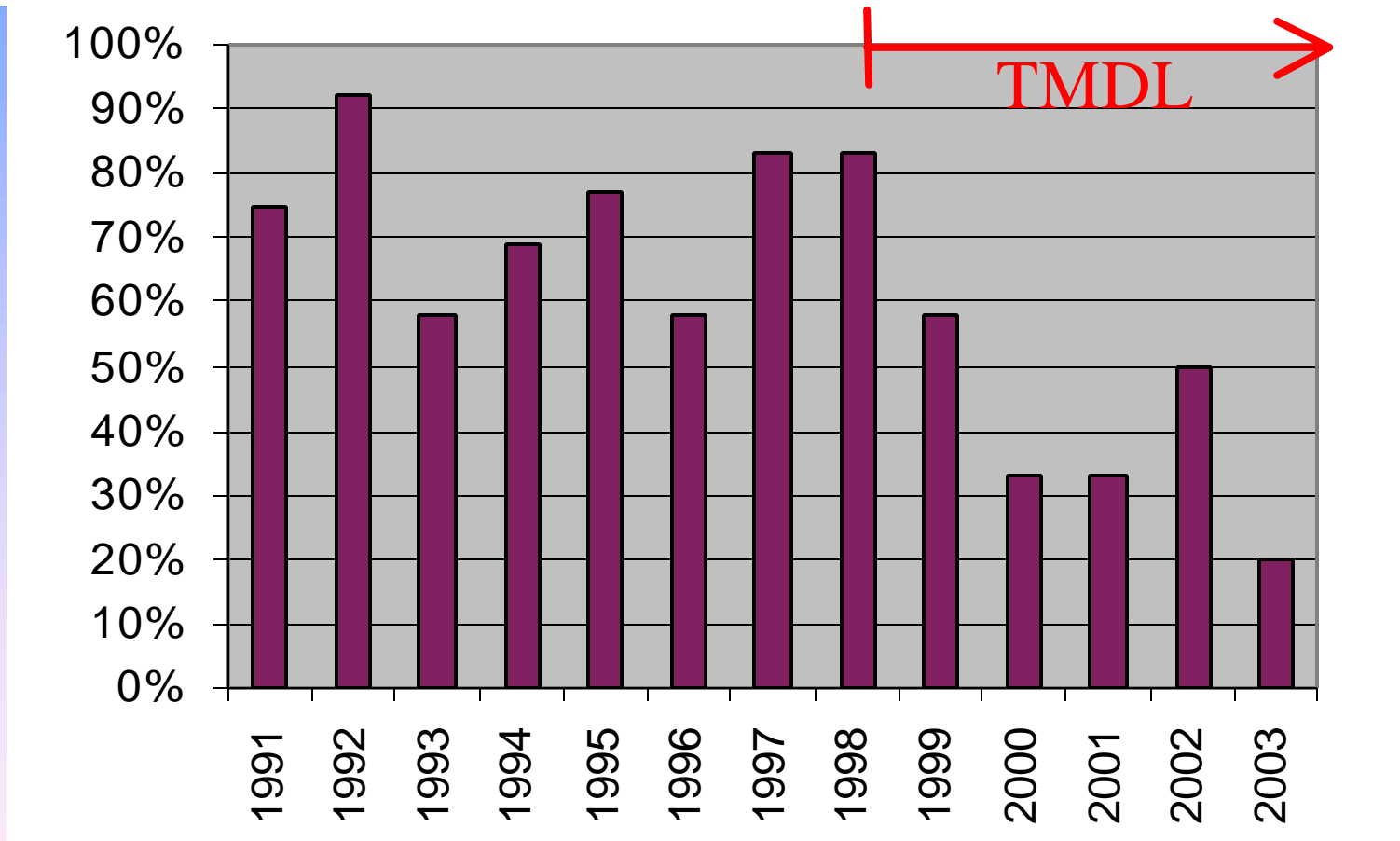
% of Samples Above 1000 cfu/100mL Fecal Coliform



1BMDD000.40 (near Dry River confluence)

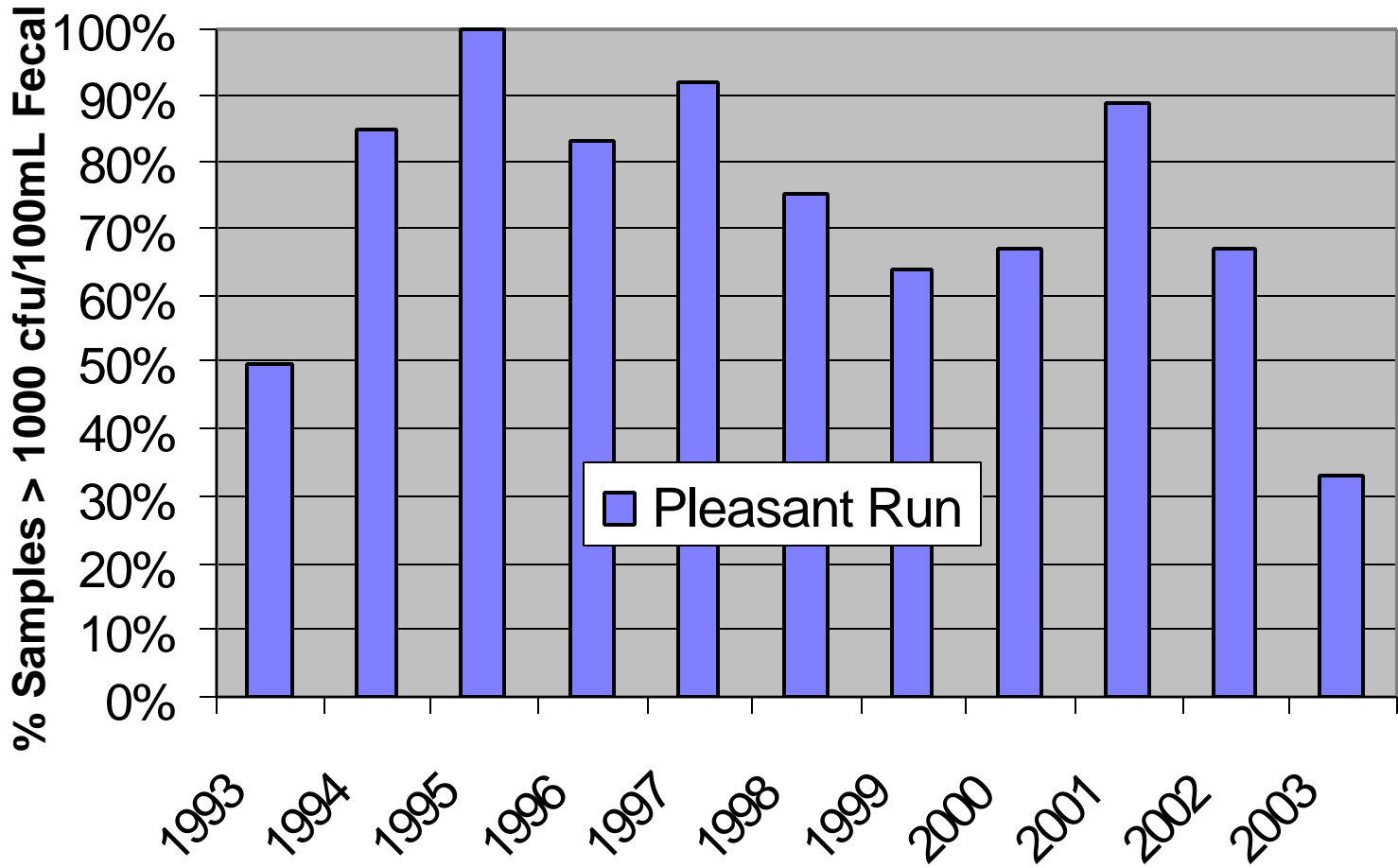
# Resulting Decreases in Fecal Coliform

% of Samples Above 1000 cfu/100mL Fecal Coliform

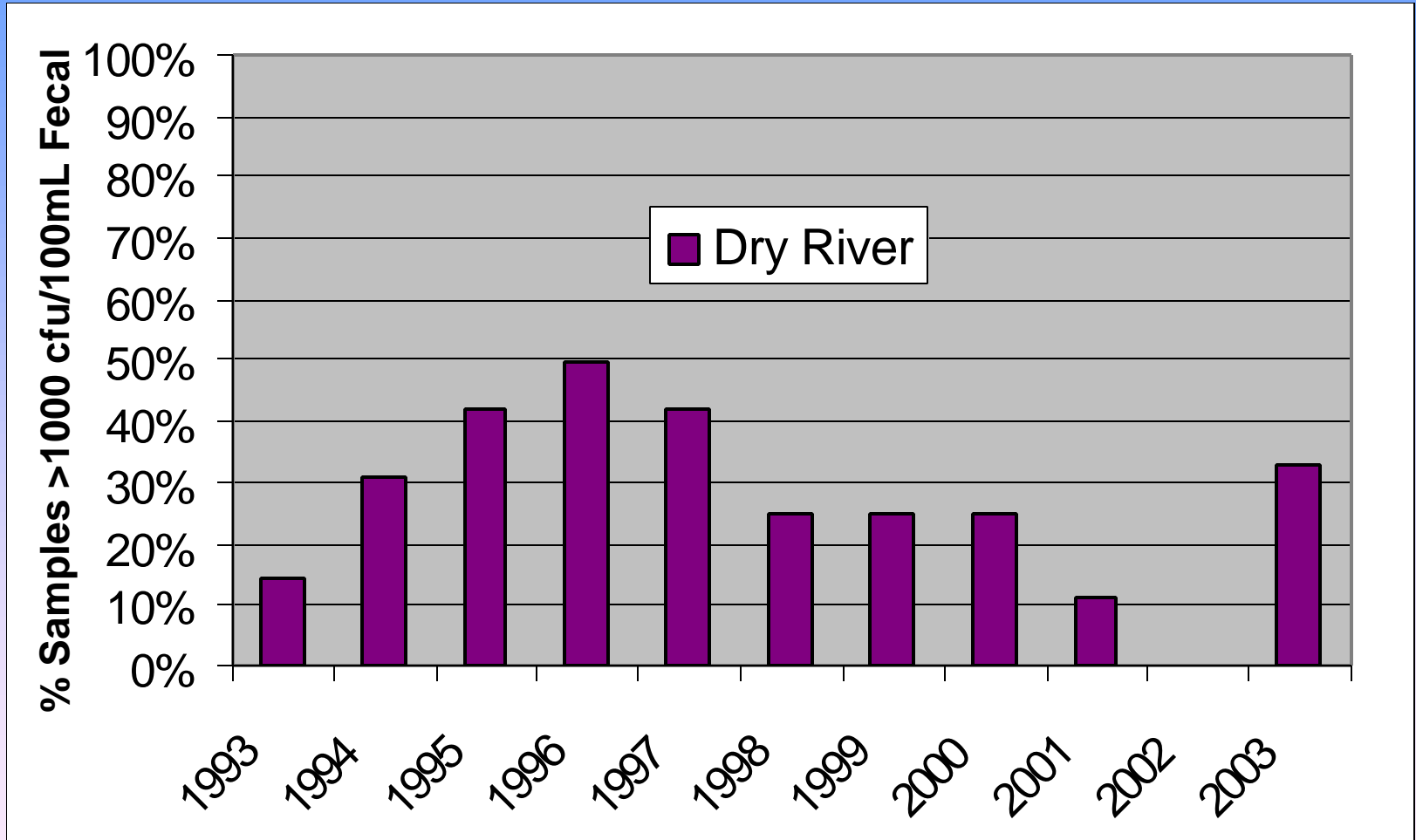


1BMDD005.81 (5.81 miles upstream of Dry River)

# Pleasant Run

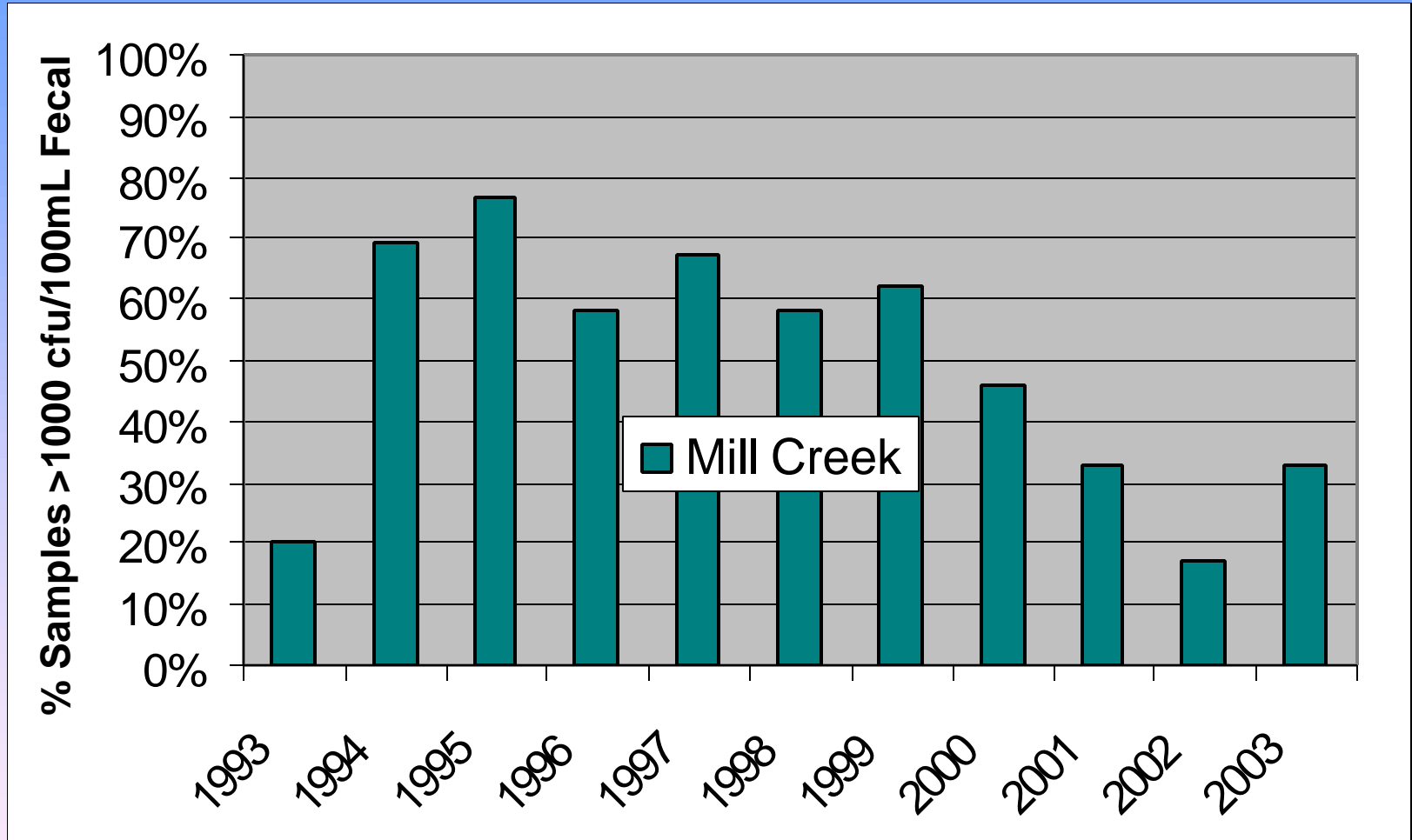


# Dry River

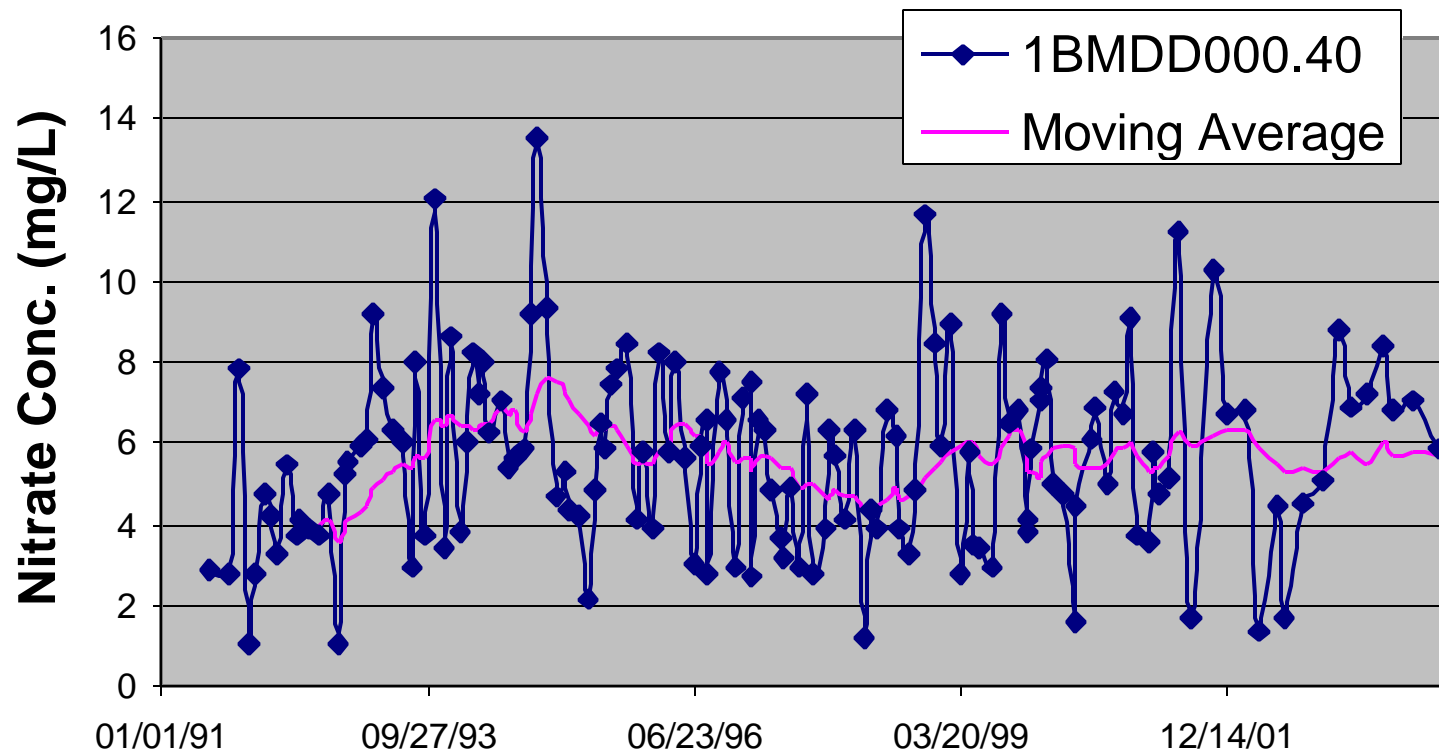




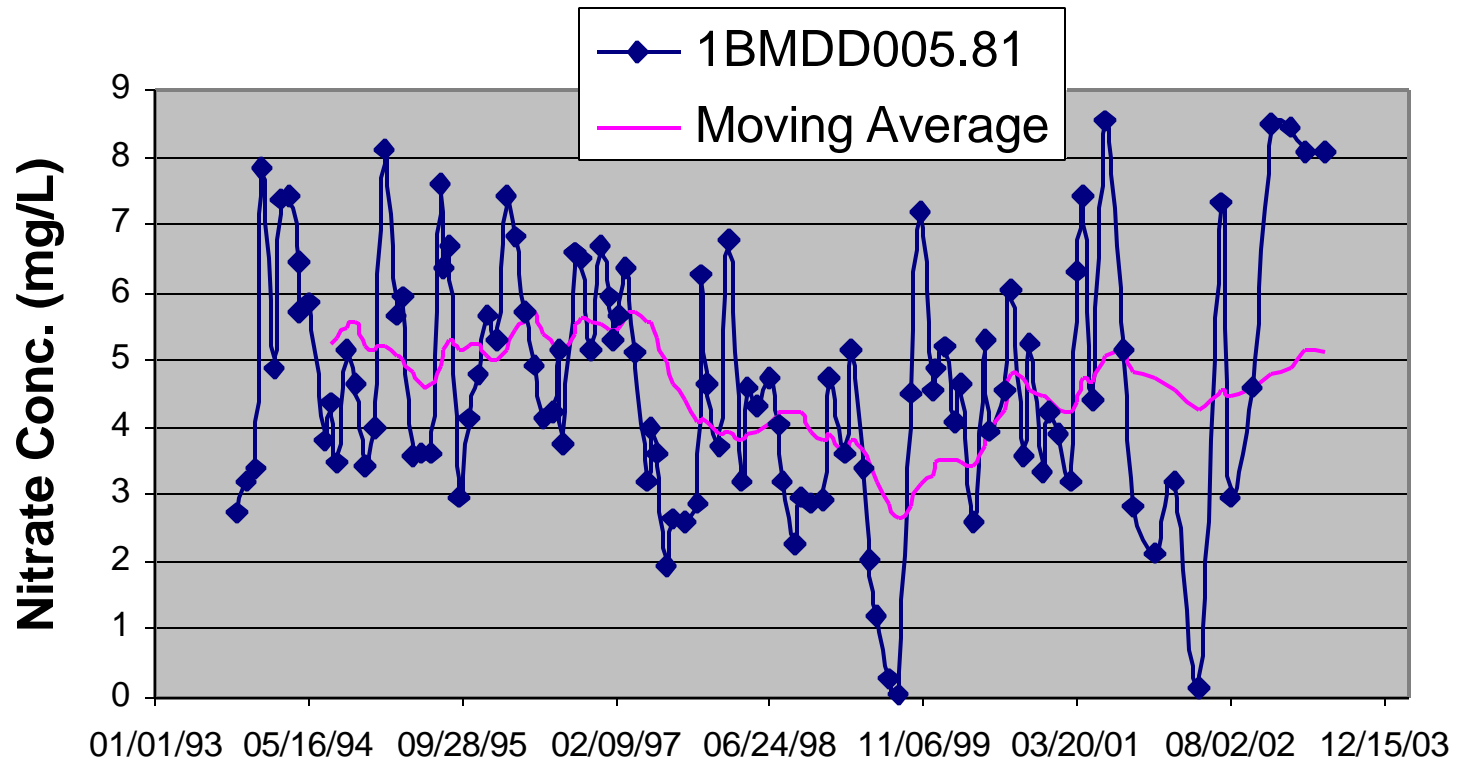
# Mill Creek



# Muddy Creek Nitrate (Downstream)



# Muddy Creek Nitrate (Upstream)



# For More Information

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